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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	09/826,241
Applicant(s)	:	Roli Garg WENDORF et al.
Filed	:	4 April 2001
TC/A.U.	:	2126
Examiner	:	Phuong N. HOANG
Atty. Docket	:	NL000763

Title: ACCESSING AN IN HOME NETWORK THROUGH THE INTERNET

APPEAL BRIEF

U.S. Patent and Trademark Office
220 20th Street S.
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Sir:

In response to the FINAL Office Action dated 13 July 2006, and in support of the Notice of Appeal filed on 25 August 2006, Applicants hereby respectfully submit this Appeal Brief.

REAL PARTIES IN INTEREST

Koninklijke Philips Electronics N.V. owns all of the rights in the above-identified U.S. patent application by virtual of an assignment recorded at Reel 012013, Frame 0803.

RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences related to this application or to any related application, nor will the disposition of this case affect, or be affected by, any other application directly or indirectly.

STATUS OF CLAIMS

Claims 1-12 are pending and all stand rejected.

Accordingly, the claims on Appeal are claims 1-12.

STATUS OF AMENDMENTS

There are no pending amendments with respect to this application.

SUMMARY OF CLAIMED SUBJECT MATTER

The present invention is directed to a communication system including an in-home network, a method of communicating in a communication system including an in-home network, and a remote device and an intermediate device for use in a communication system including an in-home network.[1]

Accordingly, as broadly recited in claim 1, a communication system (100 – FIG. 3) includes an in-home network (140 – FIGs. 3, 4B) and a remote device (110 – FIGs. 3, 4B, 5) (page 4, lines 30-32). The in-home network (100) includes a plurality of in-home devices (130, 150 – FIGs. 3, 4B, 5) (page 4, lines 32-35) operative to communicate using predetermined in-home protocols (232/252, 234/254 – FIG. 4B) including an in-home application protocol (234/254) (page 5, lines 12-13). At least one of the in-home devices is referred to as an intermediate device (130 – FIGs. 3, 4B, 5) (page 4, lines 32-33), and it is operative to communicate with the remote device (110) using predetermined remote protocols (230/210– FIG. 4B; 332/334 – FIG. 5) including a remote application protocol (332/334 – FIG. 5) which differs from the in-home application protocol (234/254) (page 6, lines 16-33). The remote device (110) is operative to load a portable application program (238 – FIG. 4B) (page 6, lines 7-8) for controlling at least one of the in-home devices (150) by calling an Application Program Interface (API) (236 – FIG. 4B, 5) of the in-home application

1 In the description to follow, citations to various reference numerals, figures, and corresponding text in the specification are provided solely to comply with Patent Office rules. It should be understood that these reference numerals, figures, and text are exemplary in nature, and not in any way limiting of the true scope of the claims. It would therefore be improper to import anything into any of the claims simply on the basis of **exemplary** language that is provided here only under the obligation to satisfy Patent Office rules for maintaining an Appeal.

protocol (234/254); and load an API emulator (310 – FIGs. 4B) operative to provide a callable interface for functions of the in-home application protocol (234/254), and to supply this API functionality by communicating with a module (330 – FIG. 4B) in the intermediate device (130) using the remote protocols (page 6, lines 11-33). The intermediate device (130) includes: (1) an API (236) operative to provide interface functionality for the functions of the in-home application protocol (234/254) by controlling the intermediate device (130) and/or communicating with other in-home devices (150) according to application messages of the in-home application protocol (234/254) (page 5, line 32; page 7, lines 29-32; page 4, lines 24-29); and (2) the module (330 – FIG. 4B) for communicating between the API emulator (310) in the remote device (110) and the API (236) in the intermediate device (130), establishing a substantially transparent communication path between the portable application program (238) in the remote device (110) and the API (236) in the intermediate device (130) (page 6, lines 18-33).

As broadly recited in claim 2, the invention further features the in-home protocols including a messaging protocol (232/252; 40/530 – FIGs. 1, 2), hierarchically below the in-home application protocol (234/254; 20/520 – FIGs. 1, 2) (page 4, lines 5-17, 24-26; page 2, line 29 – page 3, line 6), and the API emulator (310) being operative to supply the API functionality by executing the in-home application protocol (234/254) in the remote device (110) and supplying the in-home application protocol (234/254) an interface to the messaging protocol (232/252) by communicating with the module (330) in the intermediate device (130) using the remote protocols (210/230) (page 6, lines 12-33).

As broadly recited in claim 3, the invention further features the in-home application protocols (234/254) being Home Audio/Video interoperability (HAVi) based (page 1, lines 5-7; page 4, line 31 – page 5, line 2; page 5, lines 12-13).

As broadly recited in claim 4, the invention further features the portable application program (238) being Java based (page 5, lines 14-15).

As broadly recited in claim 5, the invention further features the remote protocols (230/210) being based on Internet protocols (page 4, line 31 – page 5, line

2; page 5, lines 10-11).

As broadly recited in claim 6, the invention further features the API emulator (310) and the module (330) communicating using a remote procedure calling protocol (page 6, lines 24-28; page 10, lines 20-23).

As broadly recited in claim 7, the invention further features information to be communicated between the API emulator (310) and the module (330) are described using a mark-up language (page 7, lines 24-25).

As broadly recited in claim 8, the invention further features the remote device (110) being operative to load the portable application program (238) and/or API emulator (310) from the intermediate device (130) (page 8, lines 11-27).

As broadly recited in claim 9, the invention further features the remote device (110) being operative to load the portable application program (238) and/or API emulator (310) from an in-home device (150), other than the intermediate device (130), via the intermediate device (130) (page 8, line 28 – page 9, line 2).

As broadly recited in claim 10, the invention further features a remote device (110) for use in a communication system (100) as claimed in claim 1 (page 4, lines 30-32). The remote device (110) is operative to load a portable application program (238) (page 6, lines 7-8) for controlling an in-home device (150) by calling an Application Program Interface (API) (236) of an in-home application protocol (234/254); and load an API emulator (310) operative to provide a callable interface for functions of the in-home application protocol (234/254), and to supply this API functionality by communicating with a module (330) in an intermediate device (130) using predetermined remote protocols (230/130; 332/334) including a remote application protocol (332/334) which differs from the in-home application protocol (234/254) (page 6, lines 11-33). The intermediate device (130) is on an in-home network (140) including a plurality of in-home devices (130, 150) operative to communicate using predetermined in-home protocols (232/252, 234/254) including the in-home application protocol (234/254) (page 5, lines 12-13; page 6, lines 16-33).

As broadly recited in claim 11, the invention further features an intermediate device (130) for use in a communication system (100) as claimed in claim 1. The

intermediate device (130) is on an in-home network (140) including a plurality of in-home devices operative to communicate using predetermined in-home protocols (232/252, 234/254) including an in-home application protocol (234/254). The intermediate device (130) also is operative to communicate with a remote device (110) using predetermined remote protocols (230/210– FIG. 4B; 332/334 – FIG. 5) including a remote application protocol (332/334 – FIG. 5) which differs from the in-home application protocol (234/254) (page 6, lines 16-33). The intermediate device (130) includes: (1) an Application Program Interface (API) (236) of the in-home application protocol (234/254) operative to provide interface functionality for functions of the in-home application protocol by controlling the intermediate device (130) and/or communicating with other in-home devices (150) according to application messages of the in-home application protocol (page 5, line 32; page 7, lines 29-32; page 4, lines 24-29); and (2) a module (330) for communicating between an API emulator (310) in the remote device (110) and the API (236) in the intermediate device (130), establishing a substantially transparent communication path between a portable application program (238) in the remote device (110) and the API (236) in the intermediate device (130) (page 6, lines 18-33). The portable application program (238) is operative to control at least one of the in-home devices (150) by calling an Application Program Interface (API) (236) of the in-home application protocol (234/254); and the API emulator (236) is operative to provide a callable interface for functions of the in-home application protocol (234/254), and to supply this API functionality by communicating with the module (330) in the intermediate device (110) using the remote protocols (230/210) (page 6, lines 11-33).

As broadly recited in claim 12, a method is provided for communicating in a communication system (100 – FIG. 3) including an in-home network (140 – FIGs. 3, 4B) and a remote device (110 – FIGs. 3, 4B, 5) (page 4, lines 30-32). The in-home network (140) includes a plurality of in-home devices (150, 130 – FIGs. 3, 4B, 5) operative to communicate using predetermined in-home protocols (232/252; 234/254 – FIG. 4B); including an in-home application protocol (234/254) (page 5, lines 12-13). At least one of the in-home devices is referred to as an intermediate device (130),

also being operative to communicate with the remote device (110) using predetermined remote protocols (230/210– FIG. 4B; 332/334 – FIG. 5) including a remote application protocol (332/334 – FIG. 5) which differs from the in-home application protocol (234/254) (page 6, lines 16-33). The method includes: (a) in the remote device (110), loading and executing a portable application program (238 – FIG. 4B) (page 6, lines 7-8) for controlling at least one of the in-home devices (150) by calling an Application Program Interface (API) (236) of the in-home application protocol (234/254); and (b) loading and executing an API emulator (310) operative to provide a callable interface for functions of the in-home application protocol (234/254), and to supply this API functionality by communicating with a module (330) in the intermediate device (130) using the remote protocols (page 6, lines 11-33); and (c) in the intermediate device (130), loading and executing: (1) an API (236) operative to provide interface functionality for the functions of the in-home application protocol (234/254) by controlling the intermediate device (130) and/or communicating with other in-home devices (150) according to application messages of the in-home application protocol (234/254) (page 5, line 32; page 7, lines 29-32; page 4, lines 24-29); and (2) the module (330) for communicating between the API emulator (310) in the remote device (110) and the API (236) in the intermediate device (130), establishing a substantially transparent communication path between the portable application program (238) in the remote device (110) and the API (236) in the intermediate device (130) (page 6, lines 18-33).

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

The ground of rejection to be reviewed on Appeal is the rejection of claims 1-12 under 35 U.S.C. § 103 over Gibbs et al. U.S. Patent 6,169,725 ("Gibbs") in view of Zintel et al. U.S. Patent 6,547,066 ("Zintel").

ARGUMENTS

Claims 1-12 Are All Patentable Over Gibbs in view of Zintel

The FINAL Office Action dated 13 June 2006 rejects claims 1-12 under 35

U.S.C. § 103 over Gibbs in view of Zintel.

Applicants respectfully traverse these rejections for at least the following reasons.

Claim 1

Among other things, the system of claim 1 includes an intermediate device including a module for communicating between an API emulator in a remote device and an API in the intermediate device ***using remote protocols***, establishing a substantially transparent communication path between the portable application program in the remote device and the API in the intermediate device. Furthermore, claim 1 clearly recites that the remote application protocol differs from the in-home application protocol.

The Office Action states at page 3, line 11 that Gibbs discloses such an intermediate device including a module for communicating between an API emulator in a remote device and an API in the intermediate device using remote protocols, establishing a substantially transparent communication path between the portable application program in the remote device and the API in the intermediate device, citing the 1394 Communication Media Manager (CMM) of Gibbs as supposedly corresponding to the recited module for communicating between an API emulator in a remote device and an API in the intermediate device using remote protocols.

Applicants respectfully disagree.

As its name indicates, the 1394 Communication Media Manager of Gibbs provides bus access to a 1394 bus. Gibbs shows the 1394 CMM in FIG. 5. Clearly, the 1394 CMM is for communicating between devices in the in-home network according to the ***in-home protocols***! Indeed, at page 3, lines 1-2, the Examiner himself identified IEEE1394 as being the ***in-home protocol***.

For better understanding of the issue, the Board's attention is respectfully drawn to compare FIG. 5 in Gibbs with FIG. 1 of the present application also showing 1394 CMM as element 50, and then to compare FIG. 5 in Gibbs with FIG. 4B of the present application, where the exemplary1394 CMMs for intermediate device 130 and device 150 are labeled with reference numerals 232 and 252, respectively. Note

that in the embodiment of FIG. 4B of the present application, the module at issue here is element 330 in intermediate device 130, which actually provides communication between API emulator 310 in remote device 110 and API 236 in intermediate device 130 **using TCP/IP remote protocols** (i.e., remote protocols which differ from the in-home 1394 CMM protocols).

Very clearly, Gibbs' 1394 CMM does not and cannot provide communication between an API emulator in a remote device and an API in the intermediate device **using remote protocols**.

So Applicants respectfully submit that no combination of Gibbs and Zintel could ever produce the system of claim 1.

Also among other things, the system of claim 1 includes a remote device operative to load an API emulator operative to provide a callable interface for functions of the in-home application protocol, and to supply this API functionality by communicating with a module in the intermediate device using remote protocols.

The Examiner fairly admits that Gibbs fails to disclose or suggest any remote device including this combination of features.

However, the Examiner maintains that Zintel teaches a "remotely control device" (sic) having all of these features, and that it would have been obvious to one of ordinary skill in the art at the time the invention was made to "apply the teaching of Zintel" to Gibb's system "because the remote device is well-known as a remote control devices (sic) to be able to control other in-house network remotely, and since a module's role is a controller of other in-house devices, it is used to communicate with the remote device."

At the outset, this statement is so grammatically flawed as to make its comprehension impossible without resorting to some amount of guesswork.

Nevertheless, Applicants respectfully submit that no combination of the teachings of Gibbs and Zintel would have led anyone of ordinary skill in the art at the time the invention was made to have produced the system of claim 1. In particular, neither Gibbs nor Zintel discloses a remote device operative to load an API emulator operative to provide a callable interface for functions of the in-home application

protocol, and to supply this API functionality by communicating with a module in the intermediate device using remote protocols

As taught for example at page 1, lines 7-8, and 17-20 of Applicants' specification, a remote device is "remote", and not an element of the in-home network, nor therefore is it equipped with the in-home protocols. This is consistent with the separate recitations in claim 1 of "an in-home network" **and** "a remote device." Claim 1 specifically recites that that the remote device communicates with a module in an intermediate device (which is part of the in-home network) using remote protocols "including **a remote application protocol which differs from the in-home application protocol**." Thus, for example, as Applicants have disclosed, a remote device may communicate with a module in an intermediate device of an in-home network using remote protocols (e.g., via the Internet), while the in-home devices may communicate with each other using in-home protocols (e.g., HAVi protocols). Also as recited in claim 1, the remote device is **operative to load an API emulator** of the in-home application protocol (e.g., an HAVi Java API emulator) so that it can provide a callable interface for functions of the in-home application protocol. For example, as taught at page 6, lines 12-20 of Applicants' specification:

> "*Unlike the real HJA layer 236 as shown in Fig. 4A, the HJA emulator 310 does not issue HAVi messages directly to a HAVi device. Instead, The HJA emulator 310 ensures that the interaction between itself and the Havlet 238 results in a same interaction with the real HJA 236, which actually provides the functionality. So, the HJA emulator 310 'mimics' the HJA layer 236 by reporting the fact that HJA was called by the HAVi applet 238 and details about the call (like parameters) to the intermediate device 130. The intermediate device 130 is loaded with an additional module 330 which retrieves the information supplied to it by the HJA emulator 310 and issues the corresponding call to the HJA interface 236.*"

The Examiner does not cite any reference numeral of any element in any of the **50**(!) figures of Zintel as supposedly corresponding to the remote device having the features of claim 1. Instead, the Examiner very vaguely cites large portions of text from cols. 1, 4, 6, 13 and 15 – without any explanation – as supposedly the remote device having the features of claim 1.

Applicants respectfully submit that nowhere in the cited text, or elsewhere, does Zintel disclose the remote device having the features of claim 1. In that regard, Applicants note, for example, that FIG. 2 of Zintel, mentioned in the cited text, does not show any remote device as recited in claim 1. For example, user control points 104, 105 communicate with controlled devices 106 and 107 and bridged devices 122 using UPnP protocols (see e.g., col. 13, lines 1-4).

Accordingly, for at least these additional reasons, Applicants respectfully submit that no combination of Gibbs and Zintel could ever produce the system of claim 1.

Furthermore, Applicants respectfully traverse the proposed combination of Gibbs and Zintel as being improper. M.P.E.P. § 2144.01 provides that:

> "*Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art.*"

Here, the Examiner does not cite anything at all in support of its proposed motivation to modify Gibbs' system to add a remote device having all of the features recited in claim 1. A rejection under 35 U.S.C. § 103 must be based on objective evidence of record, and cannot be supported merely on subjective belief and unknown authority. M.P.E.P. § 2144.03 provides that:

> "*there must be some form of evidence in the record to support an*

assertion of common knowledge. See In re Lee, 277 F.3d at 1344-45, 61 USPQ2d at 1434-35 (Fed. Cir. 2002); In re Zurko, 258 F.3d at 1386, 59 USPQ2d at 1697 (holding that general conclusions concerning what is "basic knowledge" or "common sense" to one of ordinary skill in the art without specific factual findings and some concrete evidence in the record to support these findings will not support an obviousness rejection)."

(Emphasis added). See also In re Lee, 277 F.3d at 1343-44, 61 USPQ2d at 1433-34 (Fed. Cir. 2002) (the examiner's finding of whether there is a teaching, motivation or suggestion to combine the teachings of the applied references must not be resolved based on "subjective belief and unknown authority," but must be "based on objective evidence of record.").

No such concrete evidence has been provided by the Examiner here, nor did the Examiner submit an affidavit as required by 37 C.F.R. § 1.104(d)(2) if this proposed motive were based on facts within his personal knowledge (see M.P.E.P. § 2144.03). Applicants have previously requested such an affidavit if this rejection continued to be maintained based a motive for modification not explicitly suggested in the prior art, but no such affidavit was forthcoming from the Examiner.

Accordingly, for at least these reasons, Applicants respectfully submit that claim 1 is patentable over the cited prior art.

Claims 2-11

Claims 2-11 depend from claim 1 and are therefore deemed to be patentable for at least the reasons set forth above with respect to claim 1, and for the following additional reasons.

Claim 8

In the system of claim 8, the remote device is operative to load the portable application program and/or API emulator from an intermediate device.

Applicants respectfully submit that no such feature is disclosed in any of the various portions of cited text in Zintel. Furthermore, the Examiner does not provide

any motivation that supposedly would have led one to modify Gibbs system to include a remote device operative to load the portable application program and/or API emulator from the intermediate device. Therefore, the proposed combination of Gibbs and Zintel with respect to claim 8 is traversed.

Accordingly, for at least these additional reasons, Applicants respectfully submit that claim 8 is patentable over the cited prior art.

Claim 9

In the system of claim 9, the remote device is operative to load the portable application program and/or API emulator from an in-home device, other than an intermediate device, via the intermediate device.

Applicants respectfully submit that no such feature is disclosed in any of the various portions of cited text in Zintel. Furthermore, the Examiner does not provide any motivation that supposedly would have led one to modify Gibbs system to include a remote device operative to load the portable application program and/or API emulator from the intermediate device. Therefore, the proposed combination of Gibbs and Zintel with respect to claim 9 is traversed.

Accordingly, for at least these additional reasons, Applicants respectfully submit that claim 9 is patentable over the cited prior art.

Claim 12

Among other things, the method of claim 12 includes: (1) a remote device **loading and executing an API emulator** operative to provide a callable interface for functions of an in-home application protocol, and to supply this API functionality by communicating with a module in the intermediate device using the remote protocols; and (2) an intermediate device loading and executing **a module for communicating between the API emulator in the remote device** and an API in the intermediate device, establishing a substantially transparent communication path between a portable application program in the remote device and the API in the intermediate device.

Applicants traverse the proposed combination of Gibbs and Zintel as being improper for the reasons explained above with respect to claim 1. Furthermore, for

similar reasons to those set forth above with respect to claim 1, Applicants respectfully submit that neither Gibbs nor Zintel discloses or suggests any such features, and therefore no possible combination of Gibbs and Zintel could ever produce the method of claim 12 including these features.

Accordingly, for at least these additional reasons, Applicants respectfully submit that claim 12 is patentable over the cited prior art.

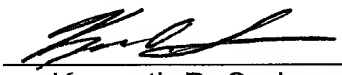
CONCLUSION

For all of the foregoing reasons, Applicants respectfully submits that claims 1-12 are all patentable over the cited prior art. Therefore, Applicants respectfully request that claims 1-12 be allowed and the application be passed to issue.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 50-0238 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17, particularly extension of time fees, and any fees under 37 C.F.R. § 41.20.

Respectfully submitted,

VOLENTINE FRANCOS & WHITT, P.L.L.C.

By: 

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CLAIMS APPENDIX

1. A communication system including an in-home network and a remote device;

the in-home network including a plurality of in-home devices operative to communicate using predetermined in-home protocols including an in-home application protocol; at least one of the in-home devices, being referred to as intermediate device, also being operative to communicate with the remote device using predetermined remote protocols including a remote application protocol which differs from the in-home application protocol;

- the remote device being operative to load a portable application program for controlling at least one of the in-home devices by calling an Application Program Interface (API) of the in-home application protocol; and load an API emulator operative to provide a callable interface for functions of the in-home application protocol, and to supply this API functionality by communicating with a module in the intermediate device using the remote protocols;
- the intermediate device including:
  - an API operative to provide interface functionality for the functions of the in-home application protocol by controlling the intermediate device an/or communicating with other in-home device(s) according to application messages of the in-home application protocol; and
  - the module for communicating between the API emulator in the remote device and the API in the intermediate device, establishing a substantially transparent communication path between the portable application program in the remote device and the API in the intermediate device.

2. A communication system as claimed in claim 1, wherein the in-home protocols include a messaging protocol, hierarchically below the in-home application protocol, and the API emulator being operative to supply the API functionality by executing the in-home application protocol in the remote device and supplying the in-

home application protocol an interface to the messaging protocol by communicating with the module in the intermediate device using the remote protocols.

3. A communication system as claimed in claim 1, wherein the in-home application protocols are Home Audio/Video interoperability (HAVi) based.

4. A communication system as claimed in claim 1, wherein the portable application program is Java based.

5. A communication system as claimed in claim 1, wherein the remote protocols are based on Internet protocols.

6. A communication system as claimed in claim 1, wherein the API emulator and the module communicate using a remote procedure calling protocol.

7. A communication system as claimed in claim 1, wherein information to be communicated between the API emulator and the module are described using a mark-up language.

8. A communication system as claimed in claim 1, wherein the remote device is operative to load the portable application program and/or API emulator from the intermediate device.

9. A communication system as claimed in claim 8, wherein the remote device is operative to load the portable application program and/or API emulator from an in-home device, other than the intermediate device, via the intermediate device.

10. A remote device for use in a communication system as claimed in claim 1, the remote device being operative to load a portable application program for controlling an in-home device by calling an Application Program Interface (API) of an

in-home application protocol; and load an API emulator operative to provide a callable interface for functions of the in-home application protocol, and to supply this API functionality by communicating with a module in an intermediate device using predetermined remote protocols including a remote application protocol which differs from the in-home application protocol; the intermediate device being on an in-home network including a plurality of in-home devices operative to communicate using predetermined in-home protocols including the in-home application protocol.

11. An intermediate device for use in a communication system as claimed in claim 1, the intermediate device being on an in-home network including a plurality of in-home devices operative to communicate using predetermined in-home protocols including an in-home application protocol; the intermediate device also being operative to communicate with a remote device using predetermined remote protocols including a remote application protocol which differs from the in-home application protocol; the intermediate device including:

- an Application Program Interface (API) of the in-home application protocol operative to provide interface functionality for functions of the in-home application protocol by controlling the intermediate device an/or communicating with other in-home device(s) according to application messages of the in-home application protocol; and
- a module for communicating between an API emulator in the remote device and the API in the intermediate device, establishing a substantially transparent communication path between a portable application program in the remote device and the API in the intermediate device, where the portable application program is operative to control at least one of the in-home devices by calling an Application Program Interface (API) of the in-home application protocol; and the API emulator is operative to provide a callable interface for functions of the in-home application protocol, and to supply this API functionality by communicating with the module in the intermediate device using the remote protocols.

12. A method of communicating in a communication system including an in-home network and a remote device; the in-home network including a plurality of in-home devices operative to communicate using predetermined in-home protocols including an in-home application protocol; at least one of the in-home devices, being referred to as intermediate device, also being operative to communicate with the remote device using predetermined remote protocols including a remote application protocol which differs from the in-home application protocol; the method including:

- in the remote device, loading and executing a portable application program for controlling at least one of the in-home devices by calling an Application Program Interface (API) of the in-home application protocol; and loading and executing an API emulator operative to provide a callable interface for functions of the in-home application protocol, and to supply this API functionality by communicating with a module in the intermediate device using the remote protocols; and
- in the intermediate device, loading and executing:
  - an API operative to provide interface functionality for the functions of the in-home application protocol by controlling the intermediate device an/or communicating with other in-home device(s) according to application messages of the in-home application protocol; and
  - the module for communicating between the API emulator in the remote device and the API in the intermediate device, establishing a substantially transparent communication path between the portable application program in the remote device and the API in the intermediate device.

EVIDENCE APPENDIX

{None}

RELATED PROCEEEDINGS APPENDIX

{None}